

WHAT IS CLAIMED IS:

1. A method of call handling for a wireless access network, comprising:

receiving at a call agent of a wireless access
5 network a call origination for a mobile device;

determining whether the mobile device is registered on the wireless access network;

if the mobile device is not registered, determining at a mobility control function (MCF) whether the mobile
10 device is active; and

if the mobile device is active, connecting the call to the mobile device with a call agent based on a temporary line directory number (TLDN) assigned by the MCF and passed to the call agent in an extended session
15 initiation protocol (SIP) message.

2. The method of Claim 1, further comprising if the mobile device is not active, connecting the call to a voice mail server identified by profile information for
20 the mobile device.

3. The method of Claim 1, further comprising:
if the mobile device is registered, retrieving profile information for the mobile device at the call
25 agent; and

routing the call to the mobile device in the wireless access network through the MCF using a SIP message.

4. A system of call handling for a wireless access network, comprising:

means for receiving at a call agent of a wireless access network a call origination for a mobile device;

5 means for determining whether the mobile device is registered on the wireless access network;

means for if the mobile device is not registered, determining at a mobility control function (MCF) whether the mobile device is active; and

10 means for if the mobile device is active, connecting the call to the mobile device with a call agent based on a temporary line directory number (TLDN) assigned by the MCF and passed to the call agent in an extended session initiation protocol (SIP) message.

15

5. The system of Claim 4, further comprising means for if the mobile device is not active, connecting the call to a voice mail server identified by profile information for the mobile device.

20

6. The system of Claim 4, further comprising:

means for if the mobile device is registered, retrieving profile information for the mobile device at the call agent; and

25 means for routing the call to the mobile device in the wireless access network through the MCF using a SIP message.

7. A system of call handling for a wireless access network, comprising:

the logic encoded in media; and

5 logic operable to receive at a call agent of a wireless access network a call origination for a mobile device, to determine whether the mobile device is registered on the wireless access network, to, if the mobile device is not registered, determine at a mobility control function (MCF) whether the mobile device is
10 active and to, if the mobile device is active, connect the call to the mobile device with the call agent based on a temporary line directory number (TLDN) assigned by the MCF and passed to the call agent in an extended session initiation protocol (SIP) message.

15

8. The system of Claim 7, the logic further operable to, if the mobile device is not active, connect the call to a voicemail server identified by profile information for the mobile device.

20

9. The system of Claim 7, the logic further operable to, if the mobile device is registered, retrieve profile information for the mobile device at the call agent and to route the call to the mobile device in the
25 wireless access network through the MCF using a SIP message.

10. A method of handoff for a mobile device,
comprising:

receiving at a mobility control function (MCF) of a
packet network a wireless-specific handoff message
5 indicative of a mobile device engaged in a call roaming
from the packet network to a legacy system comprising a
mobile switching center (MSC);

determining at the MCF an address for handoff of the
call to the MSC based on the wireless-specific message;
10 and

generating a session initiated protocol (SIP)
message based on the wireless-specific message, the SIP
message operable to identify the address to a call agent
of the packet network for handoff of the call to the MSC
15 in the legacy system.

11. The method of Claim 10, further comprising:
forwarding the SIP message to the call agent; and
handing off the call from the packet network to the
20 legacy system at the call agent.

12. The method of Claim 11, further comprising
maintaining a calling party of the call anchored at the
call agent after handoff of the call from the packet
25 network to the legacy system.

13. The method of Claim 12, further comprising
maintaining a bearer path of traffic for the call at a
handoff gateway of the packet network after handoff of
30 the call from the packet network to the legacy system.

14. A system of handoff for a mobile device, comprising:

means for receiving at a mobility control function (MCF) of a packet network a wireless-specific handoff message indicative of a mobile device engaged in a call roaming from the packet network to a legacy system comprising a mobile switching center (MSC);

means for determining at the MCF an address for handoff of the call to the MSC based on the wireless-specific message; and

means for generating a session initiated protocol (SIP) message based on the wireless-specific message, the SIP message operable to identify the address to a call agent of the packet network for handoff of the call to the MSC in the legacy system.

15. The system of Claim 14, further comprising:

means for forwarding the SIP message to the call agent; and

means for handing off the call from the packet network to the legacy system at the call agent.

16. The system of Claim 15, further comprising means for maintaining a calling party of the call anchored at the call agent after handoff of the call from the packet network to the legacy system.

17. The system of Claim 16, further comprising means for maintaining a bearer path of traffic for the call at a handoff gateway of the packet network after handoff of the call from the packet network to the legacy system.

18. A system of handoff for a mobile device, comprising:

logic encoded in media, and

the logic operable to receive at a mobility control
5 function (MCF) of a packet network a wireless-specific
specific handoff message indicative of a mobile device
engaged in a call roaming from the packet network to a
legacy system comprising a mobile switching center (MSC),
to determine at the MCF an address for handoff of the
10 call to the MSC based on the wireless-specific message
and to generate a session initiation protocol (SIP)
message based on the wireless-specific message, the SIP
message operable to identify the address to a call agent
of the packet network for handoff of the call to the MSC
15 in the legacy system.

19. The system of Claim 18, the logic further
operable to forward the SIP message to the call agent and
to handoff the call from the packet network to the legacy
20 system at the call agent.

20. The system of Claim 19, the logic further
operable to maintain a calling party of the call anchored
at the call agent after handoff of the call from the
25 packet network to the legacy system.

21. The system of Claim 20, the logic further
operable to maintain a bearer path of traffic for the
call at a handoff gateway of the packet network after
30 handoff of the call from the packet network to the legacy
system.